NOTAS BREVES

www.unal.edu.co/icn/publicaciones/caldasia.htm Caldasia 27(1):127-130. 2005

NOTES ON THE GENUS *NYMPHOIDES* (MENYANTHACEAE) OF COLOMBIA

Notas sobre el género *Nymphoides* (Menyanthaceae) en Colombia

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ABSTRACT

Nymphoides, a cosmopolitan genus, comprises to date 22 aquatic species. Two species are actually known to occur in Colombia, *Nymphoides indica* with a pantropical distribution and *Nymphoides flaccida*, an endemic species of the Colombian Llanos. Recently I got the opportunity to collect flowering and fruiting material of *N. flaccida*, which I take for presenting a broader description of the mentioned species. A key for the Colombian species is given. The geographical distribution, ecological preferences, and descriptions are presented under each species. Probably species richness of aquatic macrophytes in the neotropics, and particularly of Colombia, may be higher than presently recognized because of the incomplete knowledge of the aquatic flora.

Key words. Menyanthaceae, *Nymphoides*, Flora of Colombia, aquatic plants.

RESUMEN

El género *Nymphoides* es cosmopolita y comprende 22 especies acuáticas, dos de las cuales están presentes en Colombia: *Nymphoides indica*, la que exhibe una distribución pantropical, y *Nymphoides flaccida*, la cual es endémica de los Llanos Orientales de Colombia. Recientemente tuve la oportunidad de recolectar material en flor y fruto de *N. flaccida*, con lo que amplío la descripción de esta especie. Se presenta una clave para separar las especies presentes en Colombia, así como las descripciones de las mismas, sus preferencias ecológicas y su distribución geográfica.

Palabras clave. Menyanthaceae, *Nymphoides*, Flora de Colombia, plantas acuáticas.

INTRODUCTION

Nymphoides, a cosmopolitan genus, comprises to date 22 aquatic species (Cook 1996). Two species are actually known to occur in Colombia, *Nymphoides indica* with a pantropical distribution and *Nymphoides flaccida*, an endemic species of the Colombian Llanos. This species is less well known and descriptions of fruits and seeds are actually lacking from the type specimen (Smith 1952). Recently I got the opportunity to collect flowering and fruiting material of *N. flaccida*, which I take for presenting a broader description of the mentioned species. Large-scale comparisons of plant richness between neotropical and temperate areas are problematic because most of its aquatic floras are not as well studied as those of Europe or North America (Crow 1993, Jacobsen & Terneus, 2001). Probably species richness of aquatic macrophytes in the neotropics, and particularly of Colombia, may be higher then presently recognized because of the incomplete knowledge of the aquatic flora.

Key to the species of *Nymphoides* in Colombia

1. Leaves orbicular to subovate, coriaceous; usually in quite waters *N. indica*
1'. Leaves oblong, flaccid; in running waters *N. flaccida*

***Nymphoides flaccida* L. B. Smith**, J. Wash. Acad. Scien. 42: 160. 1952. Type. COLOMBIA. **Meta**: Eastern Llanos, Caño Quenane, 25 jan 1942, *Dugand & Jaramillo 3121* (holotype COL).

Perennial aquatic herb from submerged rhizome; stems succulent, ascending, weak, up to 22 cm long, with a single terminal leaf or usually branching near the apex bearing one to several leaves and a cluster of flowers; leaves usually floating and submerged during low waters, all submerged during high waters, flaccid, oblong, margins undulate, base cuneate to oblong, apex obtuse, occasionally emarginate, blade glandular, 13 cm long, 2.5 cm wide; inflorescence of many fascicled flowers, appearing umbellate; flowers pedicellate, the pedicel 2–7 cm long, glabrous; calyx 2.5–6.5 mm long, sepals linear to lanceolate, apex acute; corolla ca. 15 mm long, fimbriate, white, proximally yellow; stamens 5; anthers sagittate, introrse, 2.4 mm long; capsule indehiscent or rupturing irregularly, ellipsoid to orbicular, 2.6–4.2 mm wide, 4.2–5.6 mm long, style persistent; seeds ellipsoid to suborbicular, dorsiventrally flattened, 1.7-2 mm long, grayish to brown, shiny, papillose, tegument hard.

Observations. The observed populations of *N. flaccida* grow on a cobble to gravel unconsolidated bottom, preferentially in fast to moderately flowing waters. Leaves are submerged during high waters but most of them may float during the dry season when water level is low. Flowering seemed to be timed with the low water level conditions (for example slow running waters that permits the flower to maintain itself emerged o floating during anthesis), however flower buts and fruits are usually submerged. On the other hand one can note that the distribution of *N. flaccida* overlaps with the distribution of another aquatic endemic represented by *Macarenia clavigera* v. Royen (Podostemaceae).

Specimens examined

COLOMBIA. **Meta**: Alrededores de Villavicencio, caño de Peralonso, 450 m, 24-28 jul 1946, *Jaramillo et al. 362* (COL); Llanos Orientales, Caño Pachaquiaro, 450 m, 8 ago 1964, *Reyes s.n.* (COL); Mun. Villavicencio, Quebrada Peralonso, 8 jun 1970, *Lozano 2772* (COL); Mun. Fuente de Oro, Caño Iraca, al oeste de Fuente de Oro, 250 m, 7 mar 1994, *Schmidt-Mumm 1273* (COL, HPUJ).

***Nymphoides indica* (L.) Kunze**, Rev. Gen. Pl. 2: 429. 1891. Type. Specimen of uncertain origin, numbered 203.2 in Linnaean herbarium (lectotype LINN) (fide Pringle 1995).

Nymphodes humboltiana (Kunth) Kuntze, Rev. Gen. Pl. 2: 429. 1891. Type. COLOMBIA. "prope Guaduas, 590 hex.", *Humbold & Bonpland s.n.* (holotype P-Bonpl.) (fide Pringle 1995).

Further synonymy can be found in Raynal (1974), Sivarajan & Joseph (1993) and Pringle (1994).

Descriptions of this species are already available for most of the surrounding countries, e.g. Panama (Elias 1969), Venezuela (Velásquez 1994), Southeastern Brazil (Fabris & Klein 1971) and Ecuador (Pringle 1995), and no additional one is intended here. To maintain this as a short note only the geographical distribution of specimens within Colombia has been considered here. However Elias (1969) and recently also Pringle (1995) suggest to maintain the Neotropical plants segregated as *N. humboltiana* until additional evidence has been considered.

Figure 1. Distribution of *Nymphoides indica* (■) and *Nymphoides flaccida* (✪) in Colombia.

Specimens examined

COLOMBIA. **Antioquia**: Mun. Mutatá, carretera Mutatá-Pavarandó, potreros Hacienda El Darién, 150 m, 29 abr 1987, *Fonnegra et al. 1942* (HUA). **Atlántico**: Cerca de Baranquilla, Las Flores, en pantano próximo a la orilla del río Magdalena, 2 jul 1961, *Dugand 5700* (COL). **Cauca**: Cauca valley, 8 km N of Santander, 1125 m, 26 dec 1944, *Grant 10622* (COL). **Chocó**: Delta del Atrato, Ciénaga de la Isla, 22 jun 1954, *West 3* (COL); In open ground around Pizzaro, 5 m, 2 aug 1973, *White & Warner 84* (COL, HUA); Mun. Bahía Solano, corregimiento El Valle, carretera entre el puente sobre la

Quebrada Tundó y el Km 7 del Valle, 25 abr 1989, *Espina et al. 2988* (HUA); Mun. Bojayá, Ciénaga de Bojayacito, cerca de Bellavista, ca. 40 m, 13 abr 1982, *Forero et al. 9191* (COL). **Córdoba**: El Cerrito, 10 km SE of Montería, 12 m, 2 nov 1969, *Anderson 1856* (COL); Ciénaga de Ayapel, 50 m, 9 jul 1973, *Idrobo & Cleef 6544* (COL), Caño Bugue, 28 oct 1984, *Franco 2183* (COL); Ciénaga de Ayapel, Mun. Ayapel, 25 m, 5 dic 1989, *Marulanda & Salcedo 1610* (HUA); Ciénaga de Ayapel, La Quebradona, 22 m, 19 may 1992, *Rondon ODC-M-097* (HUA); Mun. Purísima, sistema cenagoso de Lorica, 75°44' W, 9°13' N, 6 m, 3 sep 1991, *Roldán 1660, 1666* (HUA). **Meta**: Lago Carimagua, en la cabecera del río Muco, 19 nov 1963, *Blydenstein 10622* (COL); Mun. Puerto Gaitán, laguna de Carimagua, ribera NE, 150 m, 31 oct 1993, *Schmidt-Mumm 1255* (HPUJ); Mun. San Martín, finca Los Guaduales, 350 m, 1 jun 1978, *Rangel et al. 1434* (COL). **Nariño**: Tumaco, alrededores del Piñal Dulce, 8 oct 1955, *Romero-Castañeda 5353* (COL). **Risaralda**: Pereira, 04.50N 75.53W, 900 m, 30 dic 1994, *Silverstone & Paz 7230* (CUVC, MO). **Tolima**: Dissected plateau, 6 km east of Chaparral, 810 m, 27 jan 1949, *Mason 13789* (COL); ca. 4 km southeast of Chaparral, 880 m, 26 jul 1950, *Galen Smith 1267* (COL). **Valle del Cauca**: Costa del Pacífico, isla del Guayabal, en la desembocadura del río Cajambre, 5 m, 11-12 feb 1944, *Cuatrecasas 16196* (COL); Buga, estación de piscicultura, 10 ene 1964, *Fernández-Pérez 6158* (COL).

ACKNOWLEDGMENTS

I thank M. Gonzalo Andrade-C., José Luis Fernández-Alonso, Roberto Jaramillo M. for their valuable help at the Herbario Nacional Colombiano (COL) and R. Fonnegra at the Herbario Universidad de Antioquia (HUA). Gabriel Guillot and Flor Adela Forero for assistance in the field.

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Recibido: 19/01/2004
Aceptado: 10/09/2004